

Claims

1. A DNA sequence,
5 characterized in that it contains:
(a) a sequence as shown in SEQ ID NO.1 or 2,
(b) a sequence which encodes the same protein as (a) but is
10 degenerate as a result of the genetic code,
(c) a sequence hybridizing under stringent conditions to the
15 sequences of (a) and/or (b),
(d) a genomic sequence containing the sequence of (a), (b) or (c)
 and further containing one or more introns,
(e) a sequence which differs from (a), (b), (c) or (d) due to its
 origin from a different species.

2. A DNA sequence according to claim 1,
wherein it encodes a protein that is capable of inducing oocyte
maturation and/or modulating cell division.

20 3. A DNA sequence according to claim 1 or 2,
characterized in that it further contains expression control sequences
operably linked to the coding DNA sequence.

25 4. Expression vector,
characterized in that it contains a DNA sequence according to
anyone of claims 1 to 3.

30 5. Protein
characterized in that it is encoded by a DNA sequence according to
anyone of claims 1 to 3.

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6. Protein according to claim 5,
characterized in that it contains an amino acid as shown in SEQ ID
NO.3 or 4.

5 7. Protein according to claim 5 or 6,
characterized in that it shows an oocyte maturation inducing activity
and/or a cell division modulating activity.

10 8. Protein according to anyone of claims 5 to 7,
characterized in that it contains deletions, substitutions and/or
additions of amino acids that do not substantially affect its activity.

15 9. Protein according to anyone of claims 5 to 8,
wherein a second protein is fused to build a fusion protein.

10 10. Use of a protein according to anyone of claims 5 to 9 for inducing
oocyte maturation and/or modulating cell division and/or
differentiation and/or proliferation.

20 11. Pharmaceutical composition containing as active agent a protein
according to anyone of claims 5 to 9.

25 12. Pharmaceutical composition according to claim 11, containing the
protein in combination with a pharmaceutically acceptable carrier or
adjuvant.

13. Use of a pharmaceutical composition according to claim 10 or 11 for
modulating cell proliferation, cell differentiation, or for fertility
treatments.

30 14. Use of a protein according to anyone of claims 5 to 9 as a diagnostic
marker for cell proliferation and/or cell differentiation.

15. Use of a protein according to claims 5 to 9 as a target for the identification of drugs that modulate cell cycle progression and/or cell proliferation and/or cell differentiation.

5 16. Use according to claim 15 for the development of pharmaceuticals for the treatment of cancer or other pathological situations with uncontrolled cell proliferation.

10 17. Use of a DNA sequence according to anyone of claims 1 to 3 or a part thereof as diagnostic marker for cell proliferation and/or cell differentiation for hybridization experiments to determine the amount of homologous nucleic acid sequences.